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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,001	10/24/2003	William C. Phillips	1023-291US01	9336

28863 7590 02/23/2009

SHUMAKER & SIEFFERT, P. A.
1625 RADIO DRIVE
SUITE 300
WOODBURY, MN 55125

EXAMINER	
FLORY, CHRISTOPHER A	

ART UNIT	PAPER NUMBER
3762	

NOTIFICATION DATE	DELIVERY MODE
02/23/2009	ELECTRONIC

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/693,001
Filing Date: October 24, 2003
Appellant(s): PHILLIPS ET AL.

Jessica H. Kwak
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9 December 2008 appealing from the Office action mailed 13 June 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,967,986	CIMOCHOWSKI ET AL.	10-1999
6,561,975	POOL ET AL.	5-2003

6,650,939	TAEPKE, II ET AL.	11-2003
6,810,237	MCEOWEN	10-2004
5,478,995	WALLERSTORFER ET AL.	5,478,995
6,634,563	LIPPERT	10-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-8, 16, 18-27 and 29-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cimochowski et al. (US Patent 5,967,986, hereinafter Cimochowski'986) in view of Wallerstorfer et al. (US 5,478,995, hereinafter Wallerstorfer'995) or in view of Lippert (US 6,634,563, hereinafter Lippert'563) or in view of McEowen (US 6,810,237, hereinafter McEowen'237).

In reference to claims 1, 4, 18, 25, 27, 29, 30, 31, 33 and 34, the Cimochowski'986 patent teaches a signal transfer unit (see abstract) enabling transfer of physiological data from a physiological sensor attached to a mammalian subject in use (which includes both internal and external devices), to a remote base station (see abstract and fig. 12). According to the Webster's II New Riverside University dictionary the ring like structure of figures 12 within the Cimochowski'986 patent fit the definition of both a channel and an aperture because an aperture is defined as *an opening as a hole gap or slit*, and a channel is defined as *a course through which something can be directed or moved*, and though such a ring was not constructed to, it is still capable of holding a portion of clothing associated with a patient due to the fact that the clothing

can be placed within the opening, and in turn hold the ring shaped antennae in a relatively fixed position relative to an implanted medical device. The Cimochowski'986 patent teaches the use of a cable or cord of some sort to connect the coil with the power supply and monitoring cable (see fig. 12), and further the antenna of Cimochowski'986 clearly defines the aperture therein.

Further regarding claims 1, 9, 18, 25 and 27-29, Cimochowski'986 discloses the invention substantially as claimed including that the antenna define the aperture and that the aperture be formed to hold a portion of an item of clothing by an interference or friction fit since there is inherently friction between two materials being held together, but does not expressly disclose that the aperture have a wide end and a narrow channel adjacent the wide end. In the same problem solving area (the area of attaching items comprising antennas securely to clothing), both Lippert'563 and Wallerstorfer'995 teach antenna tags wherein an aperture comprises a wide end and a channel adjacent to the wide end formed to hold a portion of an item of clothing and hold the antenna in a substantially fixed position (Lippert'563 abstract; Wallerstorfer'995: Fig. 10, aperture 47; column 6, lines 44-66). In the same field of endeavor, McEowen'237 teaches an antenna defining an aperture with a wide end and a narrower channel (Fig. 1, loop 9) in order to attach a communications device to the clothing of a user with additional security against dropping of the device and to provide an improved antenna (column 2, lines 19-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Cimochowski'986 with the antenna aperture capable of holding an article of clothing as taught by any of Lippert'563,

Wallerstorfer'995, and McEowen'237 in order to provide the Cimochowski'986 system with the same advantages of holding an antenna in a substantially fixed position.

In reference to claims 2 and 19, the ring shaped antenna of figure 12 inherently possesses a wide end that can be used for the insertion of clothing.

In reference to claims 3 and 20, because the opening of the coil can be defined as both a channel and an aperture, if the coil of the device were held vertically then rotated about its vertical axis, the channel/aperture of the device would appear to be much thinner than the channel/aperture of the coil that is not rotated. The examiner suggests that the applicant alters the phraseology of the claim to state that the thinner channel is disposed next to, above, or beneath the wider aperture, or something of the like.

In reference to claims 5, 6, 21 and 22, the Cimochowski'986 patent discloses the claimed invention except for rubberized grips. It would have been obvious to one of ordinary skill in the art at the time of the invention's conception to modify the antenna of the claimed device with rubberized grips since it is known in the art that rubberized grips can be used to improve the device's portability.

In reference to claims 7 and 23, referring to an object or orifice, as being teardrop shaped is quite broad considering the fact that a teardrop can be a multitude of shapes considering its environment. Teardrops can appear to be circular, similar to the coil of the Cimochowski'986 patent, in many environments.

In reference to claims 8 and 24, and further regarding claims 30 and 33, though the Cimochowski'986 patent does not teach the use of an insulative telemetry head

housing that encases the antenna, the Cimochowski'986 patent does teach the use of telemetry coil that acts as antennae (see fig. 12) and such housing is common in the art. Thus it would have been obvious to one of ordinary skill in the art to incorporate such housing into the Cimochowski'986 invention to protect the coils from damage and as a result of the commonality of said housing in the art.

In reference to claims 16 and 26, the Cimochowski'986 patent discloses the claimed invention except for a neurostimulator, however the Cimochowski'986 patent does teach the use of an implanted device in conjunction with an external programming device, and the use of an external programmer in conjunction with an internal device is quite common. Thus it would have been obvious to one of ordinary skill in the art at the time of the claimed invention's conception to modify the implanted neuralstimulator with an external programmer due to the commonality of such a combination and to provide the user with a convenient means for adjusting the stimulation parameters of the implanted device.

Regarding claims 32 and 35, Cimochowski'986 discloses plastic materials. Furthermore, molded plastic housings are well known in the biomedical art.

Claims 9, 11-23, 25, 26, 28, 29 and 33-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pool et al. (US Patent 6,561,975, hereinafter Pool'975) in view of Lippert'563 or in view of Wallerstorfer'995 or in view of McEowen'237.

In reference to claim 9, 11, 20, 33 and 34, the Pool'975 patent teaches a device that is capable of communicating with an implanted device, as well as teaching that the

antenna can be housed within a belt (see column 8, lead lines 34-38). Such a housing inherently possesses the ability to have clothing pulled through the channel created by buckling the belt, there by holding the antenna in a substantially fixed position relative to the implanted device, and wherein the antenna clearly defines the aperture within the belt. It is also inherent that the junction of such an opening and a piece of clothing would create friction and therefore constitute a friction fit.

Further regarding claim 9, Pool'975 is considered to disclose the invention substantially as claimed, including an antenna defining the aperture and the aperture being capable of holding a portion of an item of clothing, but does not expressly disclose that the aperture comprise a wide end and a narrow channel adjacent the wide end. In the same problem solving area (the area of attaching items comprising antennas securely to clothing), both Lippert'563 and Wallerstorfer'995 teach antenna tags wherein an aperture comprises a wide end and a channel adjacent to the wide end formed to hold a portion of an item of clothing and hold the antenna in a substantially fixed position (Lippert'563 abstract; Wallerstorfer'995: Fig. 10, aperture 47; column 6, lines 44-66). In the same field of endeavor, McEowen'237 teaches an antenna defining an aperture with a wide end and a narrower channel (Fig. 1, loop 9) in order to attach a communications device to the clothing of a user with additional security against dropping of the device and to provide an improved antenna (column 2, lines 19-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Cimochowski'986 with the antenna aperture capable of holding an article of clothing as taught by any of Lippert'563, Wallerstorfer'995, and

McEowen'237 in order to provide the Cimochowski'986 system with the same advantages of holding an antenna in a substantially fixed position.

In reference to claims 13, 14, 21 and 22, the Pool'975 patent discloses the claimed invention except for rubberized grips. It would have been obvious to one of ordinary skill in the art at the time of the invention's conception to modify the antenna of the claimed device with rubberized grips since it is known in the art that rubberized grips can be used to improve the device's portability.

In reference to claims 16, 17 and 26, the Pool'975 patent discloses the claimed invention except for a neurostimulator, however the Pool'975 patent does teach the use of an implanted device in conjunction with an external programming device, and the use of an external programmer in conjunction with an internal device is quite common. Thus it would have been obvious to one of ordinary skill in the art at the time of the claimed invention's conception to modify the implanted neurostimulator with an external programmer due to the commonality of such a combination and to provide the user with a convenient means for adjusting the stimulation parameters of the implanted device.

In reference to claims 19, 25, 28 and 29, the Pool'975 patent teaches a device that is capable of communicating with an implanted device, as well as teaching that the antenna can be housed within a belt (see column 8, lead lines 34-38). Such a housing inherently possesses the ability to have clothing pulled through the channel created by buckling the belt, there by holding the antenna in a substantially fixed position relative to the implanted device. The Pool'975 patent teaches a signal transfer unit (see abstract) enabling transfer of physiological data from a physiological sensor attached to a

mammalian subject in to a remote device (see abstract). According to the Webster's II New Riverside University dictionary the ring like structure of the belt described within the Pool'975 patent (see column 8, lead lines 34-38) fits the definition of both a channel and an aperture because an aperture is defined as *an opening as a hole gap or slit*, and a channel is defined as *a course through which something can be directed or moved*, and though such a ring was not constructed to, it is still capable of holding a portion of clothing associated with a patient due to the fact that the clothing can be placed within the opening, and in turn hold the ring shaped antennae in a relatively fixed position relative to an implanted medical device. The Pool'975 patent teaches the use of a "wand or some other extendible head, containing at least an antenna, is connected to the remainder of the programmer unit via a stretchable coil cable…" (See column 3, lines 6-11).

In reference to claim 15, referring to an object or orifice as being teardrop shaped is quite broad, considering the fact that a teardrop can be a multitude of shapes considering the environment. Teardrops can appear to be circular, similar to the belt like housing of the Pool'975 patent, in many environments.

In reference to claims 12 and 18, the Pool'975 patent teaches a signal transfer unit (see abstract) enabling transfer of physiological data from a physiological sensor attached to a mammalian subject in to a remote device (see abstract). According to the Webster's II New Riverside University dictionary the ring like structure of the belt described within the Pool'975 patent (see column 8, lead lines 34-38) fits the definition of both a channel and an aperture because an aperture is defined as *an opening as a*

hole gap or slit, and a channel is defined as *a course through which something can be directed or moved*, and though such a ring was not constructed to, it is still capable of holding a portion of clothing associated with a patient due to the fact that the clothing can be placed within the opening, and in turn hold the ring shaped antennae in a relatively fixed position relative to an implanted medical device. The Pool'975 patent teaches the use of a "wand or some other extendible head, containing at least an antenna, is connected to the remainder of the programmer unit via a stretchable coil cable…" (See column 3, lines 6-11).

In reference to claim 23, referring to an object or orifice, as being teardrop shaped is quite broad considering the fact that a teardrop can be a multitude of shapes considering the environment. Teardrops can appear to be circular, similar to the aforementioned belt like housing of the Pool'975 patent, in many environments.

Regarding claim 35, molded plastic housings are well known in the art.

Claims 1-9 and 11-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Taepke, II et al. (US 6,650,939, hereinafter Taepke'939) in view of Lippert'563 or in view of Wallerstorfer'995 or in view of McEowen'237.

Regarding claims 1, 2, 4, 5, 8, 9, 12, 13, 18, 19, 21, 24, 25, 27-31, 33 and 34, Taepke'93 clearly discloses an antenna for medical devices and method therefor (title; abstract; Figure 2) comprising a device housing (Fig. 2, antenna head 22 or Fig. 1, device 100); telemetry circuitry (Fig. 3, telemetry 32); a cable coupling the antenna to telemetry circuitry (Fig. 2, cable between antenna 22 and DUI 24; wherein the edges of

the antenna head can inherently be considered grip surfaces, since they must necessarily be handled in order to place the antenna head; and wherein the antenna defines an aperture and is formed to hold a portion of an item of clothing associated with the patient (column 5, line 7), wherein there is inherently friction in the connection.

Further regarding claims 1, 9, 18, 25 and 30, and regarding claims 3, 7, 11, 15, 20 and 23; Taepke'939 is considered to disclose the invention substantially as claimed, including an antenna that defines an aperture intended to hold the antenna on an item of clothing related to the patient, but does not expressly disclose that the aperture have a wide end and a narrow channel adjacent the wide end. In the same problem solving area (the area of attaching items comprising antennas securely to clothing), both Lippert'563 and Wallerstorfer'995 teach antenna tags wherein an aperture comprises a wide end and a channel adjacent to the wide end formed to hold a portion of an item of clothing and hold the antenna in a substantially fixed position (Lippert'563 abstract; Wallerstorfer'995: Fig. 10, aperture 47; column 6, lines 44-66). In the same field of endeavor, McEowen'237 teaches an antenna defining an aperture with a wide end and a narrower channel (Fig. 1, loop 9) in order to attach a communications device to the clothing of a user with additional security against dropping of the device and to provide an improved antenna (column 2, lines 19-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Taepke'939 with the antenna aperture capable of holding an article of clothing as taught by any of Lippert'563, Wallerstorfer'995, and McEowen'237 in order to provide the

Taepke'939 system with the same advantages of holding an antenna in a substantially fixed position.

In reference to claims 6, 14 and 22, the Taepke'939 patent discloses the claimed invention except for rubberized grips. It would have been obvious to one of ordinary skill in the art at the time of the invention's conception to modify the antenna of the claimed device with rubberized grips since it is known in the art that rubberized grips can be used to improve the device's portability.

In reference to claims 16, 17 and 26, the Taepke'939 patent discloses the claimed invention except for a neurostimulator. However the Taepke'939 patent does teach the use of an implanted device in conjunction with an external programming device, and the use of an external programmer in conjunction with an internal device is quite common. Thus it would have been obvious to one of ordinary skill in the art at the time of the claimed invention's conception to modify the implanted neurostimulator with an external programmer due to the commonality of such a combination and to provide the user with a convenient means for adjusting the stimulation parameters of the implanted device.

Regarding claims 32 and 35, molded plastic is a well known means of manufacturing device housings, specifically antenna heads.

(10) Response to Argument

It is initially noted (see Examiner Interview Summary Record of 23 September 2008) that an interview was conducted after the Final Rejection of 13 June 2008 in which it was suggested that the claims could potentially be amended to at least

overcome the art as applied by more positively reciting the structure of a rigid antenna housing and that rather than simply reciting a narrow channel, reciting that the aperture comprises a substantially narrower slit having parallel sides to better convey the intended structure and function of frictionally holding a piece of clothing in a pinching manner within the slit portion of the aperture only and not additionally or alternatively in the wide end of the aperture. The Applicant seems to agree on this point in the Applicant summary filed 10 October 2008. These proposed amendments were not made.

It is also initially noted that a recitation of the intended use of an invention does not distinguish over art wherein the entirety of the structure capable of that function is disclosed. In the instant case, specific clothing is not positively recited, and the structure of the applied references is clearly capable of having clothing frictionally fit into their openings as further discussed below. Furthermore, the intention that the friction fit would consequently hold the antenna in a substantially fixed position relative to an implantable medical device (also not positively recited) would rely in great part on the type of clothing being worn. Attaching an antenna to loose or baggy clothing, even within the recited structure of the instant claims, would not hold the antenna fixed relative to an implanted device, but only relative to the clothing itself.

It is also initially noted that the Applicant maintains arguments presented prior to the Final Rejection, such that the contents of the Final Rejection are incorporated herein.

Applicant presents similar arguments against each of the applied combinations of references in defense of claims 1-6, 8, 16, 18-22, 24-27 and 29; in defense of claims 7 and 23; in defense of claims 30, 31, 33 and 34; and in defense of claims 32 and 35.

Regarding claims 1-6, 8, 16, 18-22, 24-27 and 29, Applicant's principal argument is that the applied art references each fail to disclose an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. In considering Applicant's arguments (e.g. pages 9-15 of the instant Appeal Brief), it is very important to note that Applicant has evidently mischaracterized their own claim language in thinking that the recitation of "antenna" relates to the internal wire structure of the overall device responsible for wireless transmission of the electrical signal. However, as recited in each of the independent claims (e.g. claim 1 recites "An antenna" in the preamble and "wherein the antenna defines an aperture" in line 1 of the claim), it is within a reasonable interpretation of the language for the term "antenna" to relate to the overall device or the device housing rather than the internal structure specifically responsible for wireless transmission of the signal. This assertion is supported within the Applicant's own claims. For example, claim 25 calls for an antenna comprising (i.e. the antenna is considered to be the entire device) an antenna head, wherein the antenna head (i.e. housing) is that which contains the aperture that is being frictionally fit to the clothing. Additional support is contained in dependent claims 30-35, wherein there is specifically claimed separate structures of a housing and an antenna loop, wherein it is the housing that defines the aperture and not the loop, and claims are silent regarding the positioning of the actual telemetry loop relative to the aperture. As

such, it is considered reasonable to interpret the term antenna in the context of the claims to signify the overall device and device structure as separate from the claimed antenna loop, such that the overall device or housing is that which contains the aperture of the claimed dimensions.

As such, it can clearly and obviously been seen from the provided figures that each of the supporting references contains sufficient disclosure of an aperture with a wide end and a narrower channel adjacent the wide end capable of holding a portion of an item of clothing by a frictional fit. Wallerstorfer shows in Fig. 10; Lippert shows in Fig. 1; and McEowen shows in Fig. 2 an aperture that is clearly wider towards the device casing than at the narrower apex, such that the section between must necessarily be considered tapered in orientation. Specifically regarding Lippert, a triangle is by definition a shape with a wider end and a narrower end. When clothing is drawn into this aperture, e.g. a thick sweater, there will inherently be a frictional fit between the material of the device and the material of the sweater, in addition to the specific disclosures thereof.

Regarding the argument that the primary and secondary references are not in the same problem solving area, it is noted that the combination is made in the problem solving area of securing an external device to clothing.

Regarding claims 7 and 23, as stated above, Wallerstorfer, Lippert and McEowen clearly show in the figures cited above an aperture with a wider base and narrower top, such that the section between is by definition tapered.

Regarding claims 30, 31, 33 and 34, the Figures and the above reasoning is considered to clearly and fully address the limitations of a housing with an aperture in it and an antenna loop contained within the housing structure. Specifically regarding Lippert (see page 24), Applicant argues that the antenna 6 is not disposed within the loop 9. It is again noted that there is absolutely no recitation within the claims regarding the positioning of the actual transmission loop relative to the aperture.

Regarding claims 32 and 35, a plastic housing is considered to be disclosed in each of the applied references as stated in the grounds of rejection. Additionally, it is maintained that plastic housings are amply well known in the medical art.

The above is considered to address the Applicant's arguments in full, since the arguments against each specific line of rejection applied can be characterized within the above groupings. Effectively, each argument presented by the Applicant can be considered moot based on the initial position that the term "antenna" as set forth in the claims relates to the overall device structure and not to the internal loop or coil, and Applicant's arguments are presented as though "antenna" does relate to the internal loop or coil, which is specifically disproved within Applicant's own claims 25 and 30-35, which each prove that antenna is a separate structure from the internal loop, and is further silent on the placement of the loop relative to the claimed aperture.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Christopher A Flory/

Examiner, Art Unit 3762

Conferees:

/George Manuel/

Primary Examiner, Art Unit 3762

/Angela D Sykes/

Supervisory Patent Examiner, Art Unit 3762